REMARKS

Claims 1, 3-10, 14-16, 22-24, 26-29 and 41-45 remain pending. Reconsideration of the application is respectfully requested.

Claims 1, 9, 14-16 and 41-45 were rejected under 35 U.S.C. § 103(a) as obvious over Davidson (U.S. Patent No. 5,954,724). The cited reference is directed to and claims certain titanium alloys that are described as being suitable for use in medical implants and devices and the Examiner admits that the reference fails to disclose the average grain size claimed in independent claims 1 and 41 and the claims depending therefrom. The only mention of grain size in the 13 columns of disclosure appears to be limited to: "In addition, the alloy can be hot or cold mechanically worked to optimize **grain size**, strength, elastic modulus and toughness". Absolutely no suggestion is made as to what "optimizing" means, what grain size would be optimal, or even whether optimizing would entail increasing or decreasing grain size. As such, the teachings of the reference are completely devoid of any suggestion the claimed 1-10 micron grain size is desirable, let alone especially effective in preventing cracks and/or heavy slip band formation in medical devices as per the present invention. It is therefore respectfully submitted that without any further suggestions in the cited art as to what "optimal" even entails, let alone, a recognition of the problem that is being addressed by the present invention, the discovery that a 1-10 micron grain size is especially effective for this particular application cannot reasonably be characterized as being obvious and involves more than routine skill in the art.

Claims 3-6 and 10 were rejected under 35 U.S.C. § 103(a) as obvious over Davidson (U.S. Patent No. 5,954,724) in view of Davidson (U.S. Patent No. 5,415,704). In this rejection, the Examiner now characterizes the primary references as disclosing an alloy with "fine grain size." Applicants respectfully traverse. As argued the above, the reference merely states that the alloy can be worked to "optimize" grain size. No suggestion is made as to what comprises an optimal grain size, no size is suggested, nor is

"fine" grain size even mentioned. It is respectfully submitted that obviousness is therefore effectively avoided.

Claim 7 was rejected under 35 U.S.C. § 103(a) as obvious over Lam (U.S. Patent No. 5,569,295) in view of Simpson et al (U.S. Patent No. 4,770,725). It respectfully submitted that while the secondary reference may teach that a "fine" grain size results in shape memory, excellent formability and excellent machinability, the reference does not in any way suggest that a fine grain size would prevent cracks and/or heavy slip band formation, let alone that a 1-10 micron grain size is especially effective in medical device applications. It is respectfully submitted that obviousness is effectively avoided.

Claim 8 was rejected under 35 U.S.C. § 103(a) as obvious over Wolff et al. (U.S. Patent No. 4,830,003) in view of Braun et al. (U.S. Patent No. 6,129,997). The Examiner again relies on a reference that merely refers to "fine" grain size as evidence of a teaching that a particular grain size is especially desirable for a particular application. It is respectfully submitted that this is analogous to relying on a reference that discloses that a particular material has a "low" melting temperature as evidence that it is obvious that a particular melting temperature is especially well suited for a particular application. There is no suggestion in the cited references that routine skill would lead one to believe that grain size is important with regard to cracking and/or heavy slip band formation in medical device applications, as opposed to any of large number of a material's other intrinsic properties, and that a particular range of grain sizes is especially effective. It is therefore respectfully submitted that obviousness is again avoided.

Claims 22 and 26-29 were rejected under 35 U.S.C. § 103(a) as obvious over Frantzen (U.S. Patent No. 5,843,175) in view of Davidson (U.S. Patent No. 5,954,724). As was set forth above, applicants respectfully traverse with regard to the Examiner's characterization of the secondary reference as teaching a "fine" grain structure. While grain size can be altered, it must first be recognized that its alteration would be of benefit for a particular application. Moreover, there is absolutely no suggestion in any of the

references that a grain size of between 1 and 10 microns would reduce cracking and/or heavy slip band formation in medical device applications.

Claims 23 and 24 were rejected under 35 U.S.C. § 103(a) as obvious over Frantzen (U.S. Patent No. 5,843,175) in view of Davidson (U.S. Patent No. 5,415,704) or Davidson (U.S. Patent No. 5,954,724). Again, as was set forth above, applicants respectfully traverse with regard to the Examiner's characterization of the secondary reference as teaching a "fine" grain structure. While grain size can be altered, it must first be recognized that its alteration would be of benefit for a particular application. Moreover, there is absolutely no suggestion in any of the references that a grain size of between 1 and 10 microns would reduce cracking and/or heavy slip band formation in medical device applications. In view of the fact that a material has any number of intrinsic properties, the recognition that a particular property is key in achieving a particular result for a particular application is essential before any optimizing can even be undertaken. It is therefore respectfully submitted that assertion that finding the optimum grain size for the claimed application merely requires routine skill in the art initially involves the benefit of hindsight that is provided by the present invention to the extent that it identifies the significance of grain size with respect to the cracking and/or heavy slip band formation in medical device applications.

In light of the above remarks, applicants earnestly believe the application is in condition for allowance and respectfully request that it be passed to issue.

Respectfully submitted,

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